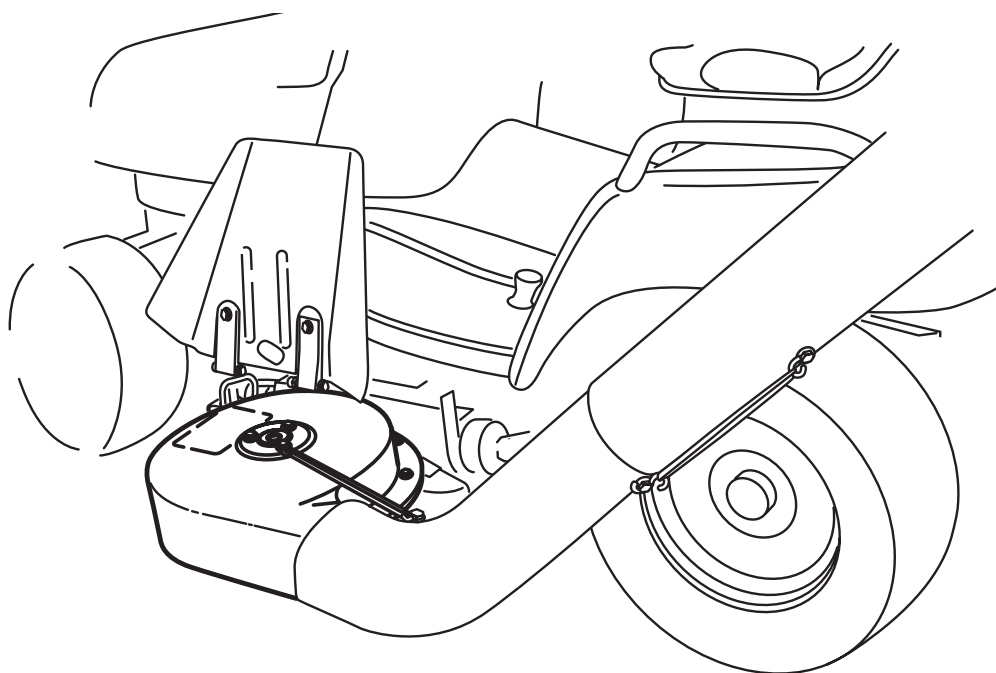




MASSEY FERGUSON

AGCO

ATTACHMENT OPERATOR'S MANUAL



Turbo Vacuum System For 60" Mower Decks

Mfg. No.	Description
1694497	Turbo Vacuum Collection System <i>(for use with Legacy XL / 2000 / 2900 Series)</i>

1726316-01

Rev 02/2004

TP 100-3923-01-AT-SMA

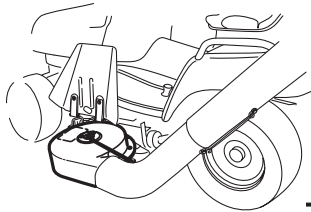


Table of Contents

Safety Rules & Information		
General Warnings.....	2	
Safety Decals	2	
General Operating Instructions		
Before Operation	3	
Mowing with the Turbo	3	
Operating without the Turbo	3	
Recommended Accessories.....	3	
After Operation	3	
Initial Setup & Assembly		
Remove Deflector & Cover	4	
Install New Idler Pulley Assembly	4	
Assemble & Install New Belt Cover	5	
Assemble & Install Deflector.....	6	
Assemble Turbo	7	
Attaching & Removing the Turbo Vacuum Collector		
Attaching the Turbo.....	8	
Removing the Turbo	8	
Adjustments.....	9	
Storage	9	
Hardware Identification & Torque Specifications.....	10	

NOTE: In these instructions, “left” and “right” are referred to as seen from the operating position.

Safety Rules & Information



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of unit, severe personal injury or death to you, or bystanders, or damage to property or equipment. **This mowing deck is capable of amputating hands and feet and throwing objects.** The triangle  in text signifies important cautions or warnings which must be followed.

GENERAL WARNINGS

- Know the tractor controls and how to stop quickly. **READ THE TRACTOR OPERATOR'S MANUAL.**
- Read and obey all safety decals.
- Only allow responsible adults, who are familiar with the instructions, to operate the unit.
- Disengage the electric clutch (PTO). Shut off the engine and wait for all moving parts to stop before attaching, adjusting, or disconnecting any part of the collection system.
- Check the collection system to make sure it is bolted tightly to the tractor.
- DO NOT operate the mower without either the entire grass catcher or the deflector in place.
- Turn off the PTO switch to disengage the blades when not mowing.
- DO NOT mow in reverse. Always look down and behind before and while travelling in reverse.
- DO NOT turn sharply when travelling alongside a building or any object. Slow down before turning.
- DO NOT carry passengers on the tractor.
- When blower assembly is removed from the mower deck, the deflector must be properly installed.
- If the mower stalls or the turbo blower chute plugs:
 1. disengage the electric clutch (PTO);
 2. stop the engine and remove the key;
 3. set the parking brake, and wait for all moving parts to stop.
 4. Remove the foreign object or clear the chute with a piece of wood before restarting the engine.
NEVER PLACE HANDS INTO BLOWER HOUSING TO CLEAR JAMMED OBJECT. BLOWER MAY ROTATE WHEN OBJECT IS REMOVED.
- For added tractor stability and to prevent tipping or loss of control:
 - a. Use reduced speed on uneven ground and when turning corners.
 - b. Reduce loads on hillsides. It is recommended that the collection system be kept only half full when negotiating any slopes. Start mowing on slopes when the collection system is empty.
 - c. Mow up and down the face of slopes; never across the face of any slope.
- When operating on slopes, use front counterweights. On slopes over 15% (8.5°), use two rear wheel weights in addition to front counterweight. **Never operate on slopes greater than 30% (16.7°).**

SAFETY DECALS

This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All DANGER, WARNING, CAUTION and instructional messages on your rider and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals below are on your rider and mower.

If any of these decals are lost or damaged, replace them at once. See your local dealer for replacements.

These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

Read and obey all operation and warning decals.



Danger Decal - P/N 1704277



Danger Decal - P/N 1704276



Warning Decal - P/N 1700259



General Operating Instructions

BEFORE OPERATION

Clear the lawn of all sticks, stones, wire and other debris which may be caught or thrown by the mower blades.

Check grass condition. If wet, wait until later in the day. If grass is wet, as the grass catcher is likely to become plugged.

For efficient grass collection, air circulation under the mower deck, through the chute and into the grass catcher or cart is very important.

For this reason, BEFORE YOU BEGIN MOWING you should make certain the underside of the mower and the underside of the catcher lid are free from grass and debris.

Make sure that there is a snug fit between mower deck, blower housing, tubes, and grass catcher cover.



MOWING WITH THE TURBO

Always operate with throttle at full speed when mowing.

Grass should be cut often, and not too short. If grass is too long or lush it may be necessary to keep ground speed to a minimum or to cut only half the width of the mower to prevent clogging. If grass is long, operate with mower in high cutting position for first pass, cutting again in a lower position on a second pass.

To check if grass is flowing up tube, view tube. **Do not open cover with mower engaged.**

If a large amount of cut grass is spilling out from under deck, the tube may be plugged or the catcher may be full—discontinue mowing, stop the tractor, disengage the PTO and then empty the catcher or clear the tube.

! WARNING

ALWAYS shut off the tractor. disengage the PTO, and allow all moving parts to stop BEFORE disconnecting or clearing tube, or emptying catcher.

Before leaving the operator's position for any reason, engage the parking brake, disengage the PTO, stop the engine and remove the key.

To reduce fire hazard, keep the engine, tractor and mower free of grass, leaves and excess grease. Do not stop or park tractor over dry leaves, grass or combustible materials.

OPERATING WITHOUT THE TURBO

If you need to mow without the turbo vacuum collector in place (for instance, if the grass is too wet to bag, but must be mowed)—you must remove the turbo blower from the mower deck, and properly position the deflector BEFORE you begin mowing.

! WARNING

To operate without the collection system, the blower assembly MUST be removed and the deflector MUST be in the down position.

The deflector is spring loaded. when removing the blower, hold the deflector up; then allow the deflector to go down into the normal operating position.

RECOMMENDED ACCESSORIES

When operating on slopes with a rear attachment, use front counterweights. If you will be operating on slopes over 15% (8.5°) two rear wheel weights are recommended in addition to the front counterweights. **Never operate on slopes greater than 30% (16.7°).**

AFTER OPERATION

The turbo blower housing and tube should be removed for cleaning. Remove the tube by unlatching the lower tube rubber band from blower housing. When reattaching, make sure there is a snug fit between the mower deck, turbo blower housing, and grass catcher.

Initial Setup & Assembly

Setup



STEP-BY-STEP INITIAL ASSEMBLY

Remove Deflector & Cover

1. Remove the mower deck from the tractor. Refer to the tractor operator's manual for instructions.
2. Remove the deflector (A, Figure 1) by removing carriage bolts, lockwashers, and nuts securing the spring (B) and rod (D).
3. Remove the rod (D) and spring (B) from the deflector. These parts will not be used. The deflector will be reinstalled.
4. Remove the left-hand belt cover (C) by removing self tapping screws. Discard the belt cover, retain the screws.

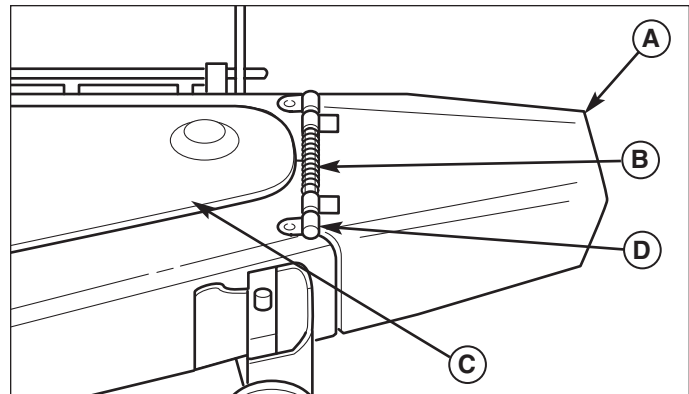


Figure 1. Deflector, Stone Guard, and Cover

A. Deflector
B. Spring
C. Belt Cover
D. Rod

Install New Idler Pulley Assembly

1. Release tension on the idler pulley spring, and slip the deck drive belt off of the left-hand idler or arbor pulley.
2. Remove and discard the existing idler pulley (A, Figure 2) and hardware. Note which hole the idler pulley was installed in deck. The new pulley should be installed in same hole.
3. See Figure 3. Insert the 3-1/4" capscrew (A) through the thick washer (B), pulley assembly (C), and spacer (D). Mount this assembly to the deck using the same hole that the original idler pulley used. Secure with a lockwasher (E) and hex nut (F) installed under the deck. Make sure that large diameter pulley is on bottom and that the spacer is between the mower deck and large pulley. Be sure idler pulley rotates freely.
4. Place the deck drive belt into the lower groove of the new pulley. Turn pulley by hand and check if other pulleys (or blades) are turning. This will ensure that belt is still properly routed under belt covers.

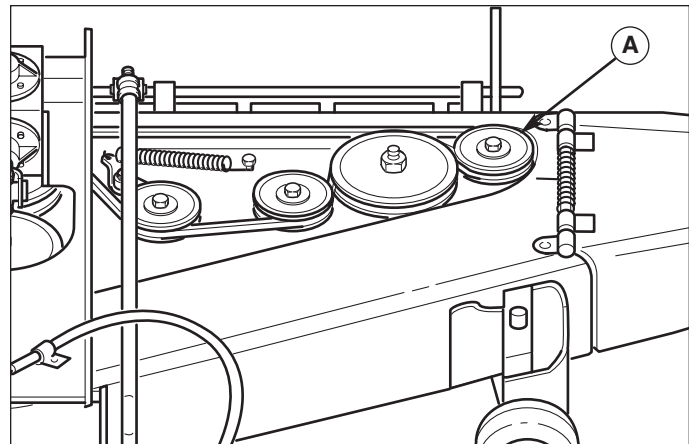


Figure 2. Idler Pulley Bracket

A. Idler Pulley

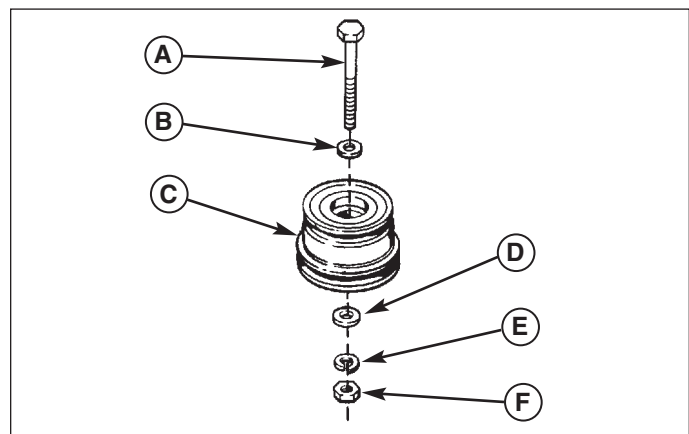


Figure 3. Install New Pulley

A. Capscrew, 3/8 x 3-1/4
B. Thick Washer
C. Pulley Assembly
D. Spacer
E. Lockwasher
F. Hex Nut

Assemble & Install New Belt Cover

1. Assemble the pulley cover (G, Figure 4) to the new belt cover. Using 10-32 x 3/8 machine screws and #10-32 nut-washer assemblies. The screws must be inserted from inside the belt cover so that nuts (D) are outside.
2. Secure knob (B) using push nut (J).
3. Install the bracket (C) with two 1/4-20 x 3/4 cap-screws, 1/4 lockwashers, and 1/4 nuts (D). Install screws from bottom.
4. Be sure a 5/16 pal nut clip (I) is in place. When the pulley cover is closed, the knob (B) will thread into pal nut (I).
5. Install the new belt cover (A, Figure 3) using the original self-tapping screws. Be sure belt cover does not contact pulleys.

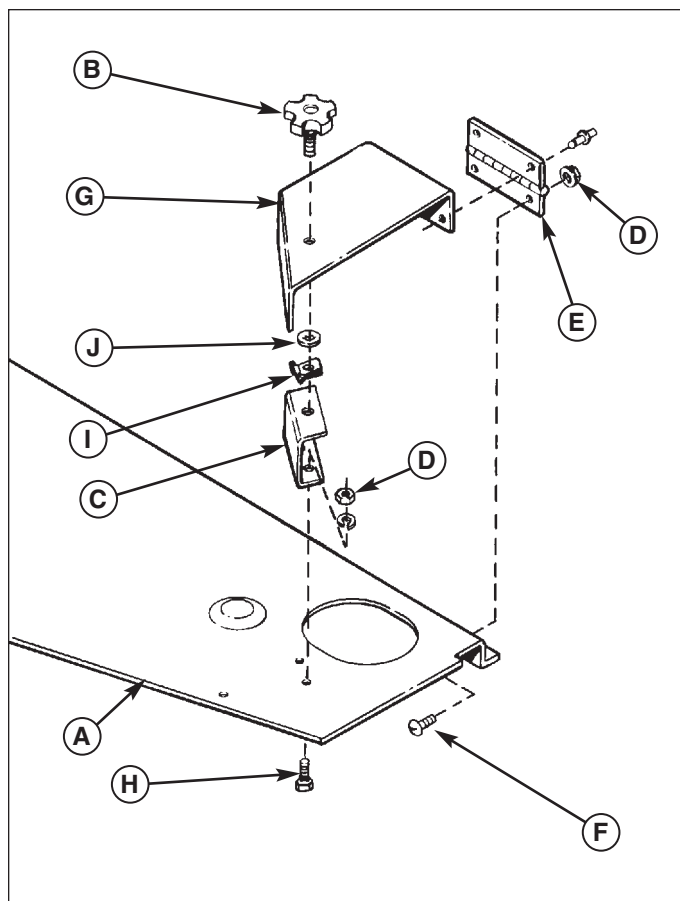


Figure 4. Assemble the New Cover

- | | |
|---------------|-----------------------|
| A. Belt Cover | F. 10-32 x 3/8 Screw |
| B. Knob | G. Pulley Cover |
| C. Bracket | H. 1/4-20 x 3/4 Screw |
| D. #10-32 Nut | I. Pan Nut Clip |
| E. Hinge | J. Push Nut |

Initial Setup & Assembly

Assemble & Install Deflector

1. The two holes for mounting the deflector must be drilled out. Turn the deflector over, and notice that these two holes are started. Finishing drilling the two 11/32 inch holes (See Figure 5).
2. See Figure 5. Connect the deflector (A) to the deflector brackets (O) with two 5/16-18 x 7/8 screws (F), 5/16 lockwashers (G), and 5/16 nuts (H). Install screws from the bottom.
3. Install two 7/16-14 x 2-1/4 capscrews (I), 7/16 lockwashers (J), and 7/16 nuts (K) as shown. Capscrews must be installed with lockwashers and nuts on the inside as shown in Figure 5.
4. Attach the front pivot bracket (B) to the existing hole in the mower deck formerly used to mount the deflector rod. Attach using 3/8-16 x 7/8 carriage bolts, lockwashers, and nuts inserted through hole "S" (See Figure 5).
5. Attach the back pivot bracket (C) to the existing hole in the mower deck formerly used to mount the deflector rod. Attach using 3/8-16 x 7/8 carriage bolts, lockwashers, and nuts inserted through hole "P" (See Figure 5).
6. Use the hinge rod (D) to align the front and back pivot brackets (B and C) as shown.
7. Using the bracket for guidance, drill out holes "Q" and "R" using an 13/32" drill.
8. In the new drilled holes. install two 3/8-16 x 7/8 capscrews (L), lockwashers (M), and nuts (N). Install capscrews from the bottom.
9. Install the deflector (A) assembly. Insert the rod (D) through the brackets (B, O, and C) and spring (E). Secure with a cotter pin at each end.
10. Hook the spring on the rear deflector bracket (O), pre-load one turn, and hook second end on back pivot bracket (C).

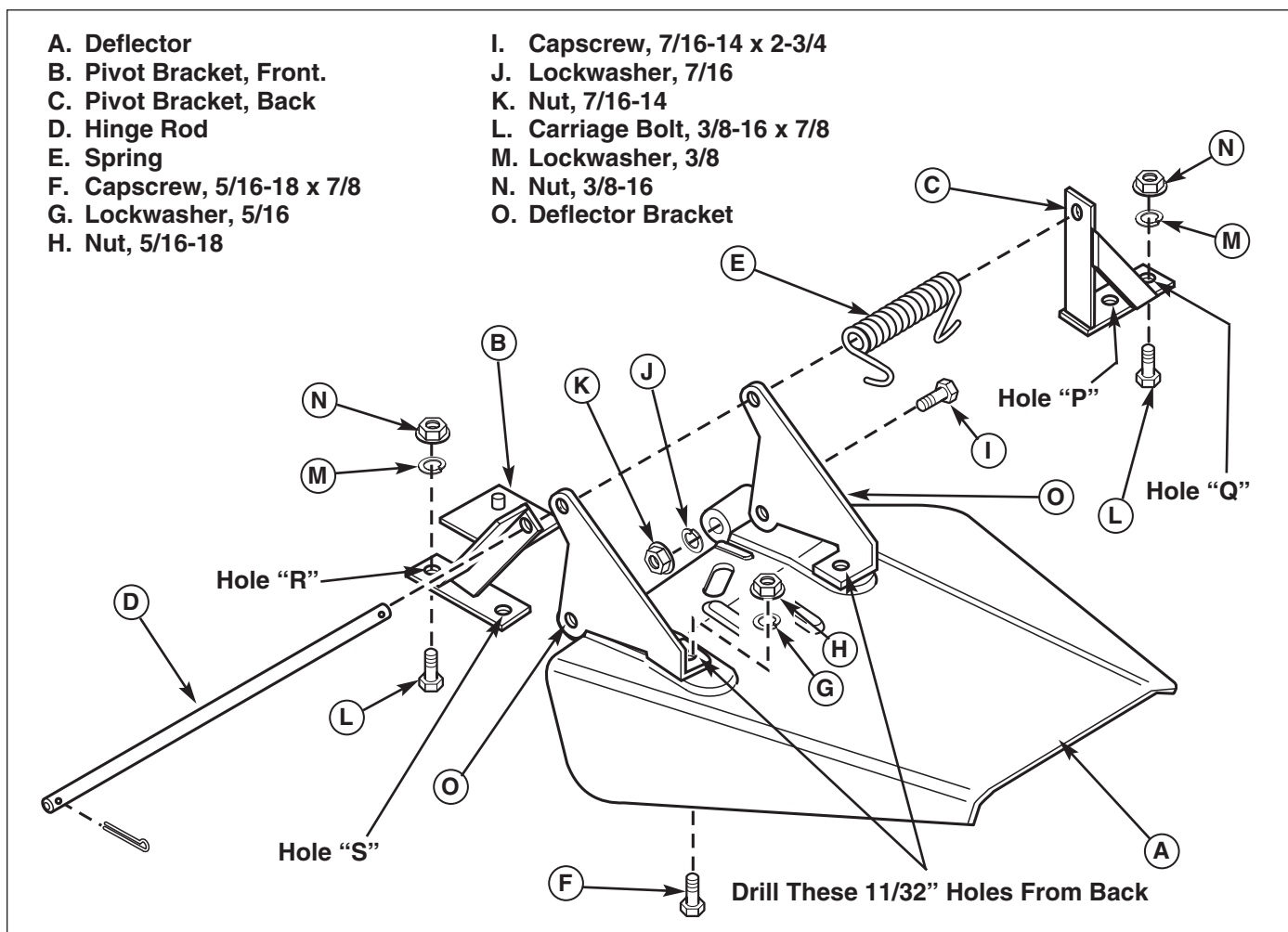


Figure 5. Deflector

Assemble Turbo

1. Assemble the turbo. Install the bracket (A, Figure 6) and upstop (B) as follows:

NOTE: Upstop (B, Figure 6) has a short and a long leg. The difference is the thickness of bracket (A). Place long leg on housing and short leg on top of bracket. Washer(s) may need to be added under each leg of upstop if deflector contacts housing. See ADJUSTMENTS.

2. Install 1/4-20 x 7/8 capscrew (C) from inside turbo housing. Place upstop (B) on capscrew and secure with 1/4-20 locknut (D).
3. Install 1/4-20 x 2-1/4" full thread capscrew (E) through upstop (B), bracket (A), and housing. Secure with 1/4-20 locknut. End of capscrew should touch bottom housing surface.
4. Install two 1/4-20 x 3/4 capscrews (F) to secure bracket to housing. Secure with 1/4-20 locknuts (F).

Complete INITIAL INSTALLATION by proceeding with the steps listed under NORMAL INSTALLATION.

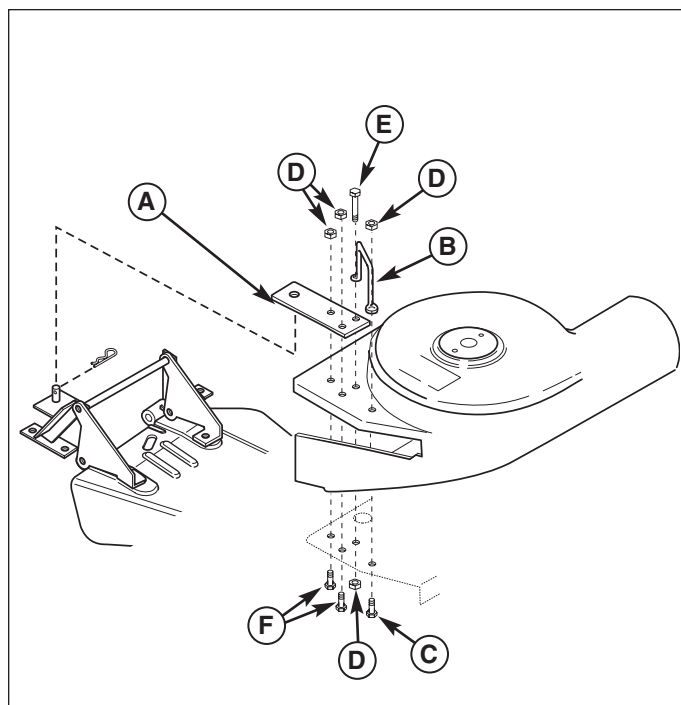


Figure 6. Assemble Turbo

- A. Bracket
- B. Upstop
- C. Capscrew, 1/4-20 x 7/8
- D. Locknut, 1/4-20
- E. Capscrew, 1/4-20 x 2-1/4
- F. Capscrew, 1/4-20 x 3/4

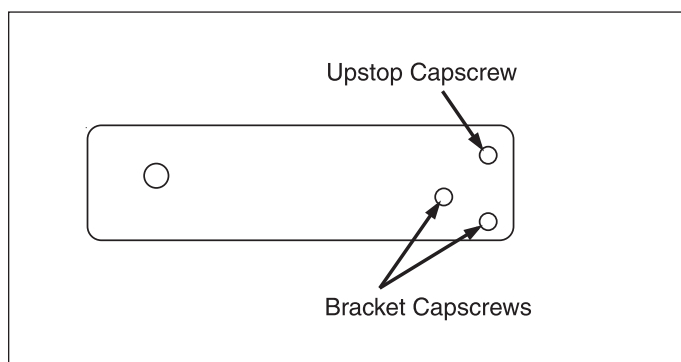


Figure 7. Bracket Hardware Placement

Attaching & Removing the Turbo Vacuum Collector

Attach



ATTACHING THE TURBO

1. Lift up the deflector.
2. Engage the stone guard hook at the bottom of the turbo as shown in Figure 9.
3. Slide turbo assembly as far rearward as possible so that the front turbo edge is tight against the front mower deck edge. Secure the turbo with the hair pin clip (B, Figure 8).
4. Move the idler release lever (C) to release belt tension.
5. Route the belt as shown in Figure 11. Make sure it is seated in all pulley grooves. The belt must be routed to the inside of the 2-1/4" capscrew as shown in Figure 11.
6. Close the belt cover (E, Figure 8) and tighten the knob into the pul nut.
7. Make sure that deflector rests on upstop (D, Figure 8) and does not contact the turbo housing. If deflector contacts housing, use washer(s) as shims under the upstop legs to increase clearance.

NOTE: After initial assembly, it is not necessary to remove mower deck when removing or installing turbo assembly.

REMOVING THE TURBO

NOTE: After initial assembly, it is not necessary to remove mower deck when removing or installing turbo assembly.

For operation without turbo, the deflector must be properly installed in the down position and retained by the spring latch.

1. Disconnect the discharge tubes.
2. Unscrew the belt cover knob (C, Figure 10) and open the cover.
3. Move the idler release lever (D, Figure 10) to release tension on the drive belt and remove the belt from the arbor pulley.
4. Remove the hairpin clip (B, Figure 10) and remove the turbo assembly.

WARNING

The deflector is spring loaded. when attaching or removing the blower, hold the deflector up; then allow the deflector to go down into the normal operating position.

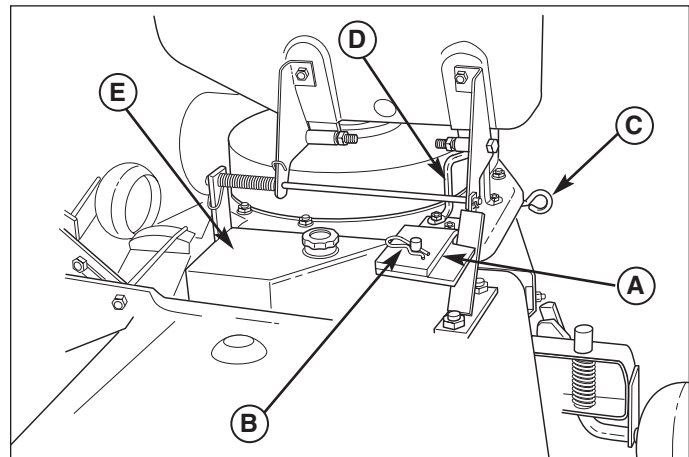


Figure 8. Mount Turbo

A. Mounting Plate
B. Hairpin Clip
C. Idler Release Lever

D. Upstop
E. Belt Cover

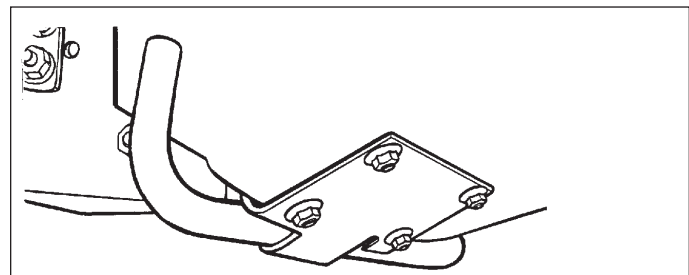


Figure 9. Engage Stone Guard Hook

WARNING

To operate without the collection system, the blower assembly **MUST** be removed and the deflector **MUST** be in the down position.

The deflector is spring loaded. when attaching or removing the blower, hold the deflector up; then allow the deflector to go down into the normal operating position.

ADJUSTMENTS

Pulley Adjustments

If the mower deck belt has stretched over time, the stacked idler pulley (B, Figure 11) may need to be moved to the outer hole in the mower deck to take up the belt slack.

If the mower idler pulley (B) is mounted in the outer hole in the deck, then the turbo idler pulley (C) should be as far toward the front as the slot will allow. If the stacked idler pulley (B) is mounted in the inner hole, then the turbo idler pulley (C) should remain as installed at factory.

To adjust:

1. Loosen the back-side idler pulley (C, Figure 11) hardware.
2. Move the idler pulley forward in the adjustment slot and then re-tighten the hardware.

Upstop Adjustment

The upstop (E, Figure 10) prevents the deflector (F) from contacting the top of the turbo. If the upstop is not providing sufficient clearance, shim the upstop with washers until the deflector does not contact the turbo.

STORAGE

Remove any debris from the turbo blower housing. If you clean the housing, use a mild detergent only (other products may damage tube). If paint has been scratched on metal parts, touch up with paint, or apply a thin film of oil.

To prevent corrosion, store in a dry area, away from moisture.

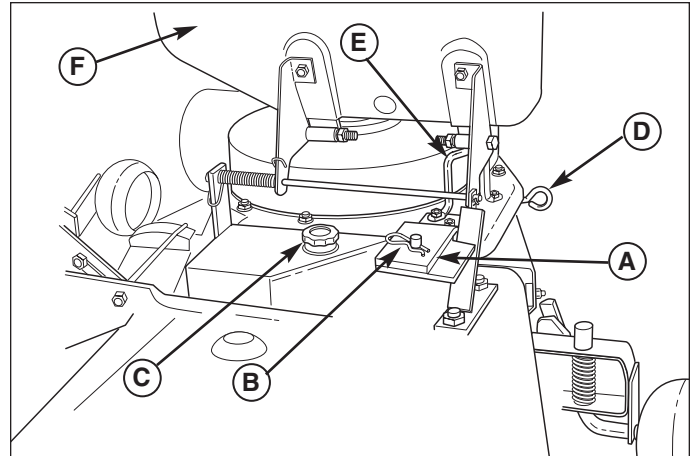


Figure 10. Mount/Remove Turbo

A. Mounting Plate
B. Hairpin Clip
C. Belt Cover Knob

D. Idler Release Lever
E. Upstop
F. Deflector

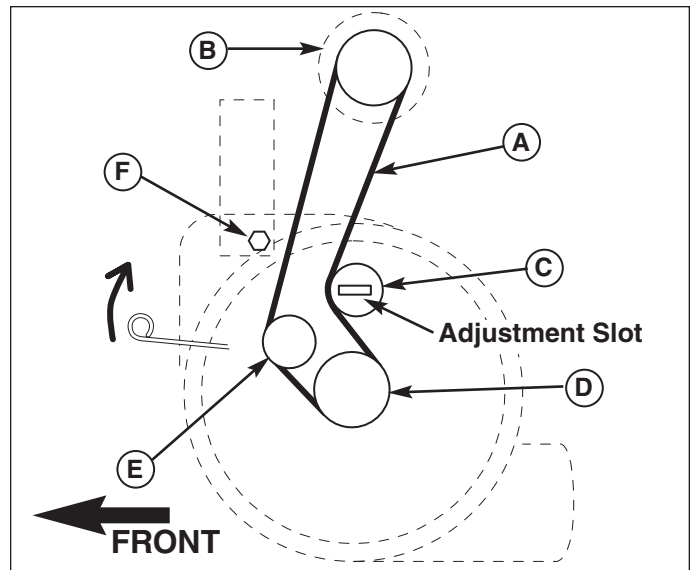


Figure 11. Turbo Belt Routing

A. Belt
B. Stacked Idler Pulley
C. Back-side Idler Pulley
D. Turbo Drive Pulley
E. SpringLoaded Idler
F. Capscrew, 1/4-20x2-1/4

Hardware Identification & Torque Specifications

Common Hardware Types

Hex Head Capscrew



Carriage Bolt



Washer



Lockwasher



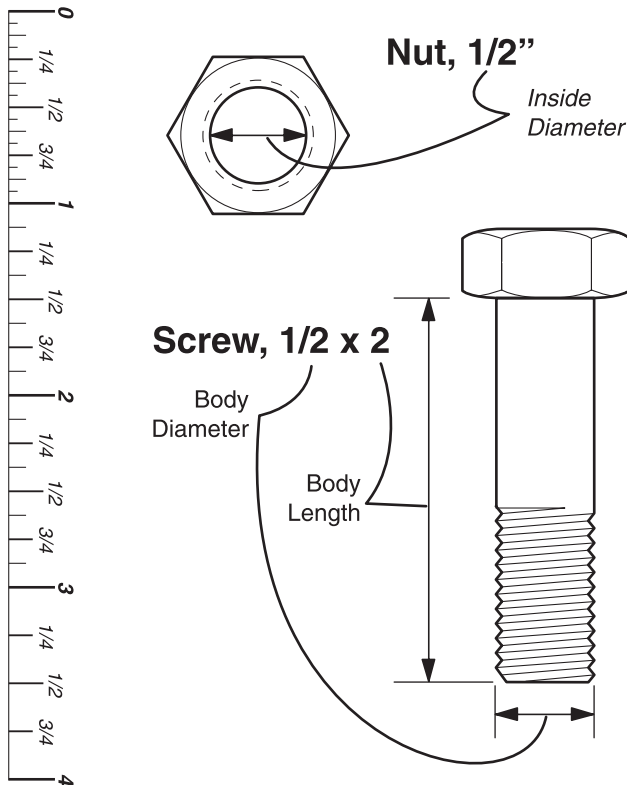
Hex Nut

Standard Hardware Sizing

When a washer or nut is identified as **1/2"**, this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch; if a second number is present it represents the *threads per inch*

When bolt or capscrew is identified as **1/2 - 16 x 2"**, this means the *Nominal size*, or *body diameter* is 1/2 inch; the second number represents the *threads per inch* (16 in this example, and the final number is the *body length* of the bolt or screw (in this example 2 inches long).

The guides and ruler furnished below are designed to help you select the appropriate hardware and tools.



Torque Specification Chart

FOR STANDARD MACHINE HARDWARE (Tolerance $\pm 20\%$)

Hardware Grade	No Marks SAE Grade 2		SAE Grade 5		SAE Grade 8	
	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	27	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

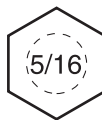
NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - for prevailing torque locknuts - use 65% of grade 5 torques.
 - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

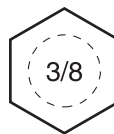
Wrench & Fastener Size Guide



1/4" Bolt or Nut
Wrench—7/16"



5/16" Bolt or Nut
Wrench—1/2"



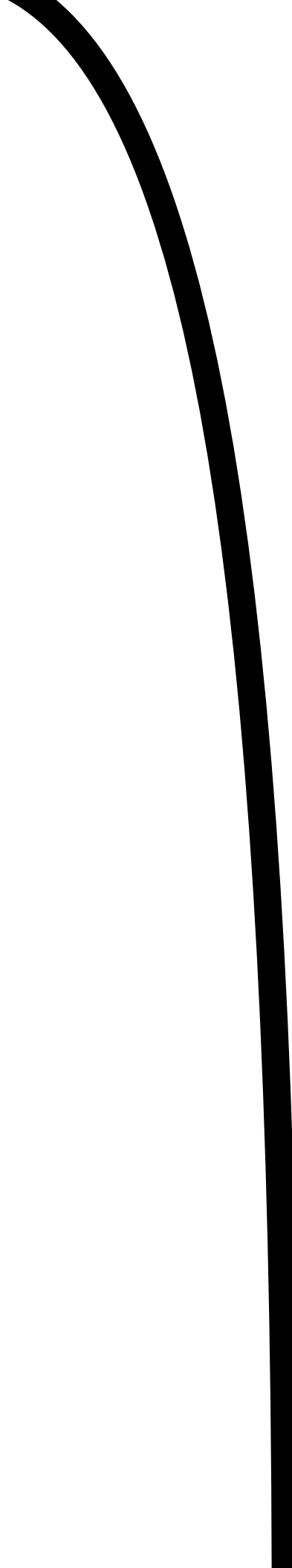
3/8" Bolt or Nut
Wrench—9/16"



7/16" Bolt or Nut
Wrench (Bolt)—5/8"
Wrench (Nut)—11/16"



1/2" Bolt or Nut
Wrench—3/4"



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MANUFACTURING, INC.
500 N Spring Street / PO Box 997
Port Washington, WI 53074-0997

www.simplicitymfg.com

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